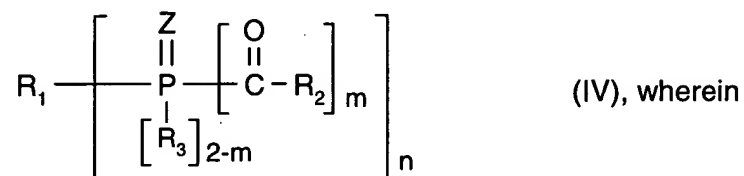


1. (cancelled).

2.(currently amended): A process for the preparation of acylphosphine oxides and acylphosphine sulfides of formula IV



$R_1, R_2, R_3, n=1$  and  $m=2$  have the meaning cited in claim 1, and

$R_1$  is  $C_1$ - $C_{18}$ alkyl,  $C_2$ - $C_{18}$ alkyl which is interrupted by one or several non-successive O atoms; phenyl-substituted  $C_1$ - $C_4$ alkyl,  $C_2$ - $C_8$ alkenyl, phenyl, naphthyl, biphenyl,  $C_5$ - $C_{12}$ cycloalkyl, the groups phenyl, naphthyl, biphenyl,  $C_5$ - $C_{12}$ cycloalkyl being unsubstituted or substituted by one to five halogen,  $C_1$ - $C_8$ alkyl,  $C_1$ - $C_8$ alkylthio and/or  $C_1$ - $C_8$ alkoxy;

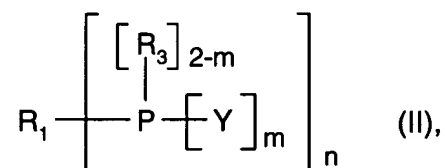
$Z$  is O or S,

$R_2$  is  $C_1$ - $C_{18}$ alkyl,  $C_3$ - $C_{12}$ cycloalkyl,  $C_2$ - $C_{18}$ alkenyl, phenyl, naphthyl, biphenyl, the groups phenyl, naphthyl, biphenyl being unsubstituted or substituted by one to four  $C_1$ - $C_8$ alkyl,  $C_1$ - $C_8$ alkoxy,  $C_1$ - $C_8$ alkylthio and/or halogen;

$R_3$  is  $C_1$ - $C_{18}$ alkyl,  $C_2$ - $C_{18}$ alkyl which is interrupted by one or several non-successive O atoms; phenyl-substituted  $C_1$ - $C_4$ alkyl,  $C_2$ - $C_8$ alkenyl, phenyl, naphthyl, biphenyl,  $C_5$ - $C_{12}$ cycloalkyl, the groups phenyl, naphthyl, biphenyl,  $C_5$ - $C_{12}$ cycloalkyl being unsubstituted or substituted by one to five halogen,  $C_1$ - $C_8$ alkyl,  $C_1$ - $C_8$ alkylthio and/or  $C_1$ - $C_8$ alkoxy;

by

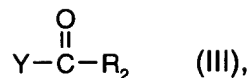
(1) reacting organic phosphorus halides of formula II



wherein  $R_1, R_3, Y, n$  and  $m$  have the meaning cited in claim 1 above and  $Y$  is Br or Cl,

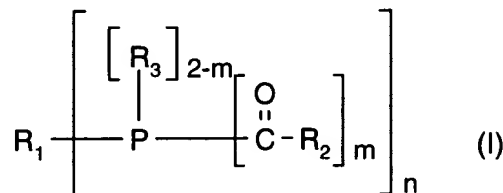
with an alkali metal or with magnesium in combination with lithium, or with mixtures thereof, ~~where appropriate in the presence of~~ with or without a catalyst, and

(2) subsequent reaction with  $m$  acid halides of formula III



wherein  $R_2$ ,  $m$  and  $Y$  have the meaning cited in ~~claim 1 above~~, and

(3) oxidation or reaction with sulfur of the acylphosphine of formula I



which is obtained by reaction (2),

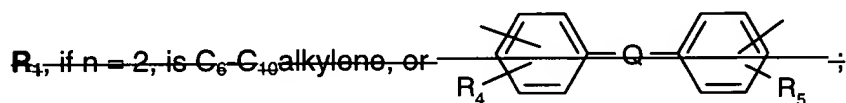
wherein  $R_1$ ,  $R_2$ ,  $R_3$ ,  $m$  and  $n$  have the meaning cited in ~~claim 1 above~~,

which process is carried out without isolation of the intermediates.

3-29. (cancelled).

30. (currently amended): A process according to claim 2, wherein

$R_1$ , if  $n=1$ , is  $C_1$ - $C_{12}$ alkyl, cyclohexyl, phenyl or biphenyl, the ~~radicals~~groups phenyl and biphenyl being unsubstituted or substituted by one to four  $C_1$ - $C_8$ alkyl and/or  $C_1$ - $C_8$ alkoxy;



$R_3$  is  $C_1$ - $C_{12}$ alkyl, cyclohexyl, phenyl or biphenyl, the ~~radicals~~groups phenyl and biphenyl being unsubstituted or substituted by one to four  $C_1$ - $C_8$ alkyl and/or  $C_1$ - $C_8$ alkoxy;

$Q$  is a single bond or  $-O-$ , and

$R_4$  and  $R_5$  are hydrogen.

31. (previously presented): A process according to claim 2, wherein

$R_2$  is phenyl which is substituted in 2,6- or 2,4,6-position by  $C_1$ - $C_4$ alkyl and/or  $C_1$ - $C_4$ alkoxy.

32. (cancelled).

33. (previously presented): A process according to claim 2, wherein  $Y$  in formula II is chloro.

34. (previously presented): A process according to claim 2, wherein the reaction (1) is carried out using lithium, sodium or potassium.

35. (currently amended): A process according to claim 34, wherein from 4 to 6 atom equivalents of the alkali metal are used for the preparation of compounds of formula I, wherein m is 2, ~~and 2 to 3 atom equivalents of the alkali metal are used for the preparation of compounds of formula I, wherein m is 1.~~

36. (previously presented): A process according to claim 2, wherein Y in the compounds of formula III is chloro.

37. (previously presented): A process according to claim 2, which comprises carrying out the reaction (1) in the presence of a catalyst.

38. (previously presented): A process according to claim 2, which comprises carrying out the reaction (1) of the organic phosphorus halides (II) with an alkali metal in the temperature range from -20° to +120°C.

39. (previously presented): A process according to claim 2, which comprises carrying out the reaction (1) of the organic phosphorus halides (II) with magnesium in combination with an alkali metal in the temperature range from 80° to 120°C.

40. (previously presented): A process according to claim 2, wherein the reaction (2) of the metallized phosphine with the acid chloride (III) is carried out at -20° to +80°C.

41. (previously presented): A process according to claim 2, wherein the reaction steps (1) and (2) are carried out in the same solvent.

42. (currently amended): A process according to claim 2, wherein, in formula I, n is 1, m is 1 or 2, R<sub>1</sub> is phenyl which is unsubstituted or substituted by C<sub>1</sub>-C<sub>4</sub>alkyl or C<sub>1</sub>-C<sub>8</sub>alkoxy, or R<sub>1</sub> is C<sub>1</sub>-C<sub>12</sub>alkyl; R<sub>2</sub> is phenyl which is substituted by halogen, C<sub>1</sub>-C<sub>4</sub>alkoxy or C<sub>1</sub>-C<sub>4</sub>alkyl; and R<sub>3</sub> is unsubstituted or C<sub>1</sub>-C<sub>4</sub>alkyl-substituted phenyl.